

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1 and 2 (canceled)

3. (currently amended) A method for identifying a swine that is resistant to intestinal colonization by toxigenic *E. coli* that are capable of adhering to intestinal walls of swine and causing intestinal disorders ~~binding to the *E. coli* F18 receptor (ECF18R)~~ in swine, said method comprising:

- (a) determining whether a swine has a genetic polymorphism, in both alleles wherein the polymorphism comprises ~~wherein~~ a nitrogen base adenine at position 307 in the open reading frame of the alpha (1, 2) fucosyltransferase 1 gene (*FUT1*) (SEQ ID NO: 12) ~~of the swine is adenine~~, or a polymorphism in allelic association linkage disequilibrium with the *FUT1* polymorphism that has only adenine at position 307; and
- (b) inferring that the swine is resistant if the swine only has adenine at position 307 or is homozygous for a polymorphism in allelic association linkage disequilibrium with *FUT1* adenine in position 307.

Claim 4 (cancelled)

5. (currently amended) A method for breeding swine that are resistant to diseases caused by toxigenic *E. coli* capable of ~~binding to the *E. coli* F18 receptor (EC18R)~~ adhering to intestinal walls of swine and causing intestinal disorders in swine, said method comprising:

- (a) selecting for breeding swine that are homozygous for a genetic polymorphism in the open reading frame of the alpha (1, 2) fucosyltransferase 1 gene, wherein a nitrogen base at position 307 in the open reading frame of the alpha (1, 2) fucosyltransferase 1 gene (SEQ ID NO: 12) of the swine is adenine, or for a polymorphism in allelic association linkage disequilibrium with the *FUT1* polymorphism that has adenine at position 307; and
- (b) breeding the selected swine.

6. (previously presented) The method of claim 5 wherein the *E. coli* is strain F18.